

From MDE Land Management Administration June 2, 2011:

Ft. Detrick Area B

Is the groundwater beneath Area B contaminated? Yes

Is some of the contaminated groundwater discharging at local springs? Yes

Do the springs ultimately discharge to Carroll Creek? Yes

Is the source of groundwater contamination suspected to be historic unpermitted landfills on Area B? Yes

What has been done? A Removal Action was conducted at the site (pit B-11) identified as having the highest concentration of volatile organic compounds as measured in soil gas. Waste and contaminated soil were removed and disposed at an off-site location. The identified landfills on Area B have been 'capped' with impermeable covers that meet COMAR requirements. Because the waste is well above the water table, the elimination of percolation from precipitation should, through time, reduce further loading of contaminants to the aquifer. MDE worked with the US EPA to place Area B Groundwater on the National Priorities List (NPL) when it became apparent that MDE's vision of an appropriate response to groundwater at the site varied significantly from that of the Army and its contractor. Under CERCLA, the Army is the Lead Agent for the President and EPA is the Lead Regulator. The State has a Support Agency role. Under the FFA, the Army cannot select a response action to address the groundwater without the EPA's support and approval of the proposed remedial alternative.

What will be done? The current remedial investigation is focused on defining all potential impacts to groundwater, flow paths within the aquifer and potential receptors of contaminated groundwater or associated vapor intrusion. The investigation will identify springs and seeps within bounding surface water bodies to inventory groundwater discharge points, perform dye trace studies to identify flow paths to discharge points, gauge stream flows, sample up to 25 discharge points for water quality and conduct two rounds of surface water sampling at 27 locations concurrent with groundwater monitoring events. Additionally, 32 sediment samples will be collected during one round of surface water sampling.

COMAR 26.08.02.02 designates specific criteria for surface waters with the intent to maintain or improve surface water quality. These designations are principally considered when issuing National Pollution Elimination System (NPDES) permits for controlled outfalls or regulated discharges.

COMAR 26.08.02.08 identifies Carroll Creek and all tributaries as Use III-P. Use III-P includes: non-tidal cold water suitable for the growth and propagation of trout, capable of supporting self-sustaining trout populations and their associated food organisms, and use as a public water supply (via a regulated treatment facility for potable water).

COMAR 26.08.02.03-2 establishes Numerical Criteria for Toxic Substances in Surface Water which are used when evaluating discharge permits. Limits for a given discharge at the end of the pipe or mixing zone for aquatic life and human health protection are:

		Human Health		
Aquatic Life		Consumption of		
Fresh Water		Drinking water +	Organism	MCL
		Organism	only	
Trichloroethylene (TCE)	NA	25 µg/l	300 µg/l	5 µg/l
Tetrachloroethylene (PCE)	NA	6.9 µg/l	33 µg/l	5 µg/l
Chloroform	NA	80 µg/l	NA	80 µg/l

To date, surface water sampling has indicated that TCE and PCE concentrations rapidly decline in Carroll Creek down-gradient of a spring or seep discharge point such as Robinson Spring. South of Hospital Spring the highest levels of TCE (2 µg/l) and PCE (0.53 µg/l) are below the criteria shown above and were non-detectable farther down stream.